SERVICE MANUAL

U-LINE®

MODULAR 3000 SERIES
120V, 3018/3024 MODELS

U-3018RFOL-00	U-3018WCOL-01	U-3024RFS-00
U-3018RFOL-01	U-3018WCS-00	U-3024RFS-01
U-3018RFS-00	U-3018WCS-01	U-3024RGLOL-00
U-3018RFS-01	U-3018WCS-13	U-3024RGLOL-01
U-3018RGLOL-00	U-3018WCS-15	U-3024RGLS-00
U-3018RGLOL-01	U-3024BEVOL-00	U-3024RGLS-01
U-3018RGLS-00	U-3024BEVOL-01	U-3024WCOL-00
U-3018RGLS-01	U-3024BEVS-00	U-3024WCOL-01
U-3018RGLS-13	U-3024BEVS-01	U-3024WCS-00
U-3018RGLS-15	U-3024RFOL-00	U-3024WCS-01
U-3018WCOL-00	U-3024RFOL-01	

THE MODULAR 3000 SERIES ARE INTENDED FOR BUILT-IN INSTALLATIONS ONLY

PRODUCT LIABILITY POLICY

In the event that a U-Line unit is involved in an alleged property damage claim, it must remain unaltered and unrepaired for evaluation. No service or repairs should be performed on any unit suspected to be involved in property damage. If a unit has been altered or repaired in the field prior to U-Line's evaluation, any claim for damage may be declined.

When a product evaluation is needed, it is the consumer's responsibility to assure that the unit is returned for evaluation. Please call U-Line immediately at 1-800-779-2547 for assistance.

Field service technicians are authorized to make an initial assessment. If in the servicer's judgment the property damage is the result of a product defect, the product must be removed and returned to U-Line in an unaltered condition. The dealer is authorized to permanently replace the end-user's product at no cost to the end-user. Please call U-Line immediately at 1-800-779-2547 to initiate the Return Authorization (RA) and product exchange process.

If in the servicer's judgment, the property damage is the result of installation (water connection/drain, etc.), the consumer must be notified and the correction would be made by the servicer or installer without removing the product. Any claim for these damages must be directed to the original installer.

If the U-Line unit in question is a Clear Ice Machine (CLR) or Clear Ice Machine/Refrigerator Combo (CLRCO) with a drain pump, both the unit and the drain pump (regardless of the manufacturer) must be returned to U-Line.

To complete the damage claim process for the consumer, please obtain the following information. This information can be emailed to U-Line at onlineservice@U-Line.com, faxed to 1-414-354-5696 or mailed to the address below.

Pictures of the unit, installation and any alleged property damage.

Inquire when the problem first appeared, any prior problems with the product and provide a brief description of the alleged damages.

To expedite the claim process, U-Line will need two damage repair estimates.

Reference the Return Authorization (RA) number and consumer name when providing this information.

If a unit is returned to U-Line for evaluation, it will take approximately ten business days. No field service company is authorized to perform this evaluation. Once a Return Authorization (RA) Number is issued and the unit has been boxed in a U-Line carton, please contact U-Line to make arrangements for shipping. U-Line will keep the appropriate parties informed during the evaluation process.

If the evaluation finds the U-Line unit (or U-Line P60 pump) to be defective, causing the property damage, the damage claim will be reviewed by the U-Line Customer Assurance Department for disposition.

If the evaluation finds the U-Line unit not to be defective, does not repeat a failure or does not leak any water from the U-Line unit (or U-Line P60 pump), all claims for damage will be declined.

Website: u-line.com

Mailing Address:
P.O. Box 245040
Milwaukee, WI 53224-9540
U.S.A.

Physical Address:
8900 N. 55th St.
Milwaukee, WI 53223
U.S.A.

Phone 1-414-354-0300
Fax 1-414-354-7905

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General Information

NOTICE

- **PLEASE READ all instructions before installing, operating, or servicing the appliance.**
- **Proper installation procedures must be followed when completing an installation or relocation of a unit. An INSTALLATION GUIDE for the unit, providing complete installation information, is available from U-Line Corporation direct. Consult the installation guide before any installation begins. U-Line contact information appears on the rear cover of this guide.**
- **This unit requires connection to a dedicated 15 Amp grounded (three-prong), polarized receptacle, installed by a qualified electrician, compliant with applicable electrical codes.**

Safety Alert Definitions

Throughout this guide are safety items labeled with a Danger, Warning or Caution based on the risk type:

⚠ DANGER

Danger means that failure to follow this safety statement will result in severe personal injury or death.

⚠ WARNING

Warning means that failure to follow this safety statement could result in serious personal injury or death.

⚠ CAUTION

Caution means that failure to follow this safety statement may result in minor or moderate personal injury, property or equipment damage.

General Precautions

Use this appliance for its intended purpose only and follow these general precautions with those listed throughout this guide:

⚠ DANGER

RISK OF CHILD ENTRAPMENT. Before you throw away your old refrigerator or freezer, take off the doors and leave shelves in place so children may not easily climb inside.

⚠ WARNING

SHOCK HAZARD - Electrical Grounding Required.

- **Never attempt to repair or perform maintenance on the unit until the electricity has been disconnected.**
- **Never remove the round grounding prong from the plug and never use a two-prong grounding adapter.**
- **Altering, cutting of power cord, removal of power cord, removal of power plug, or direct wiring can cause serious injury, fire and/or loss of property and/or life, and will void the warranty.**
- **Never use an extension cord to connect power to the unit.**
- **Always keep your working area dry.**

⚠ WARNING

Install provided Anti-Tip kit on all 3000 series models. Install provided Anti-Tip kit on all Wine Captain Models and Glass Door Refrigerators. Serious personal injury could occur.

⚠ CAUTION

- **Use care when moving and handling the unit. Use gloves to prevent personal injury from sharp edges.**
- **If your model requires defrosting, DO NOT use an ice pick or other sharp instrument to help speed up defrosting. These instruments can puncture the inner lining or damage the cooling unit. DO NOT use any type of heater to defrost. Using a heater to speed up defrosting can cause personal injury and damage to the inner lining.**

NOTICE

- **Do not lift unit by door handle.**
- **Never install or operate the unit behind closed doors. Be sure front grille is free of obstruction. Obstructing free airflow can cause the unit to malfunction and will void the warranty.**
- **Failure to clean the condenser every six months can cause the unit to malfunction. This could void the warranty.**
- **Allow unit temperature to stabilize for 24 hours before use.**
- **Do not Block any internal Fans.**

Use only genuine U-Line replacement parts. Imitation parts can damage the unit, affect its operation or performance and may void the warranty.

Models Covered

This guide covers the following models:

18" Models

Model	Hinge Configuration	Door Configuration	Cabinet Configuration	Lock
U-3018RFOL-00	Right Hand Hinge	Solid Overlay Door	Bins	No
U-3018RFOL-01	Left Hand Hinge	Solid Overlay Door	Bins	No
U-3018RFS-00	Right Hand Hinge	Stainless Steel Solid Door	Bins	No
U-3018RFS-01	Left Hand Hinge	Stainless Steel Solid Door	Bins	No
U-3018RGLOL-00	Right Hand Hinge	Glass Overlay Door	Glass Shelves	No
U-3018RGLOL-01	Left Hand Hinge	Glass Overlay Door	Glass Shelves	No
U-3018RGLS-00	Right Hand Hinge	Stainless Steel Glass Door	Glass Shelves	No
U-3018RGLS-01	Left Hand Hinge	Stainless Steel Glass Door	Glass Shelves	No
U-3018WCOL-00	Right Hand Hinge	Glass Overlay Door	Wine Racks	No
U-3018WCOL-01	Left Hand Hinge	Glass Overlay Door	Wine Racks	No
U-3018WCS-00	Right Hand Hinge	Stainless Steel Glass Door	Wine Racks	No
U-3018WCS-01	Left Hand Hinge	Stainless Steel Glass Door	Wine Racks	No
U-3018RGLS-13	Right Hand Hinge	Stainless Steel Glass Door	Glass Shelves	Yes
U-3018RGLS-15	Left Hand Hinge	Stainless Steel Glass Door	Glass Shelves	Yes
U-3018WCS-13	Right Hand Hinge	Stainless Steel Glass Door	Wine Racks	Yes
U-3018WCS-15	Left Hand Hinge	Stainless Steel Glass Door	Wine Racks	Yes

24" Models

Model	Hinge Configuration	Door Configuration	Cabinet Configuration
U-3024BEVOL-00	Right Hand Hinge	Glass Overlay Door	Shelves/Racks
U-3024BEVOL-01	Left Hand Hinge	Glass Overlay Door	Shelves/Racks
U-3024BEVS-00	Right Hand Hinge	Stainless Steel Glass Door	Shelves/Racks
U-3024BEVS-01	Left Hand Hinge	Stainless Steel Glass Door	Shelves/Racks
U-3024RFOL-00	Right Hand Hinge	Solid Overlay Door	Bins
U-3024RFOL-01	Left Hand Hinge	Solid Overlay Door	Bins
U-3024RFS-00	Right Hand Hinge	Stainless Steel Solid Door	Bins
U-3024RFS-01	Left Hand Hinge	Stainless Steel Solid Door	Bins
U-3024RGLOL-00	Right Hand Hinge	Glass Overlay Door	Glass Shelves
U-3024RGLOL-01	Left Hand Hinge	Glass Overlay Door	Glass Shelves
U-3024RGLS-00	Right Hand Hinge	Stainless Steel Glass Door	Glass Shelves
U-3024RGLS-01	Left Hand Hinge	Stainless Steel Glass Door	Glass Shelves
U-3024WCOL-00	Right Hand Hinge	Glass Overlay Door	Wine Racks
U-3024WCOL-01	Left Hand Hinge	Glass Overlay Door	Wine Racks
U-3024WCS-00	Right Hand Hinge	Stainless Steel Glass Door	Wine Racks
U-3024WCS-01	Left Hand Hinge	Stainless Steel Glass Door	Wine Racks

System Default Values

18" Models

Model	Available Modes	Default Modes	Offset			Differential	Set Points		Fan Delay	
			Zone	Evap	Ambient	Zone	Zone	Evap	On	Off
U-3018RFOL-00	Deli, Beverage, Market, Root, Pantry	Deli	0	0	0	2	36	42	1	2
U-3018RFOL-01	Deli, Beverage, Market, Root, Pantry	Deli	0	0	0	2	36	42	1	2
U-3018RFS-00	Deli, Beverage, Market, Root, Pantry	Deli	0	0	0	2	36	42	1	2
U-3018RFS-01	Deli, Beverage, Market, Root, Pantry	Deli	0	0	0	2	36	42	1	2
U-3018RGLOL-00	Deli, Beverage, Market, Root, Pantry	Deli	1	0	0	2	36	42	1	2
U-3018RGLOL-01	Deli, Beverage, Market, Root, Pantry	Deli	1	0	0	2	36	42	1	2
U-3018RGLS-00	Deli, Beverage, Market, Root, Pantry	Deli	1	0	0	2	36	42	1	2
U-3018RGLS-01	Deli, Beverage, Market, Root, Pantry	Deli	1	0	0	2	36	42	1	2
U-3018WCOL-00	Red Wine, White Wine, Sparkling	Red Wine	1	0	0	2	55	45	1	2
U-3018WCOL-01	Red Wine, White Wine, Sparkling	Red Wine	1	0	0	2	55	45	1	2
U-3018WCS-00	Red Wine, White Wine, Sparkling	Red Wine	1	0	0	2	55	45	1	2
U-3018WCS-01	Red Wine, White Wine, Sparkling	Red Wine	1	0	0	2	55	45	1	2
U-3018RGLS-13	Deli, Beverage, Market, Root, Pantry	Deli	1	0	0	2	36	42	1	2
U-3018RGLS-15	Deli, Beverage, Market, Root, Pantry	Deli	1	0	0	2	36	42	1	2
U-3018WCS-13	Red Wine, White Wine, Sparkling	Red Wine	1	0	0	2	55	45	1	2
U-3018WCS-15	Red Wine, White Wine, Sparkling	Red Wine	1	0	0	2	55	45	1	2

24" Models

Model	Available Modes	Default Modes	Offset Zone	Offset Evap	Offset Ambient	Differential Zone	Set Points Zone	Set Points Evap	Fan Delay On	Fan Delay Off
U-3024BEVOL-00	Deli, Beverage, Market, Root, Pantry	Deli	-4	0	0	2	36	42	1	2
U-3024BEVOL-01	Deli, Beverage, Market, Root, Pantry	Deli	-4	0	0	2	36	42	1	2
U-3024BEVS-00	Deli, Beverage, Market, Root, Pantry	Deli	-4	0	0	2	36	42	1	2
U-3024BEVS-01	Deli, Beverage, Market, Root, Pantry	Deli	-4	0	0	2	36	42	1	2
U-3024RFOL-00	Deli, Beverage, Market, Root, Pantry	Deli	0	0	0	2	36	42	1	2
U-3024RFOL-01	Deli, Beverage, Market, Root, Pantry	Deli	0	0	0	2	36	42	1	2
U-3024RFS-00	Deli, Beverage, Market, Root, Pantry	Deli	0	0	0	2	36	42	1	2
U-3024RFS-01	Deli, Beverage, Market, Root, Pantry	Deli	0	0	0	2	36	42	1	2
U-3024RGLOL-00	Deli, Beverage, Market, Root, Pantry	Deli	-4	0	0	2	36	42	1	2
U-3024RGLOL-01	Deli, Beverage, Market, Root, Pantry	Deli	-4	0	0	2	36	42	1	2
U-3024RGLS-00	Deli, Beverage, Market, Root, Pantry	Deli	-4	0	0	2	36	42	1	2
U-3024RGLS-01	Deli, Beverage, Market, Root, Pantry	Deli	-4	0	0	2	36	42	1	2
U-3024WCOL-00	Red Wine, White Wine, Sparkling	Red Wine	0	0	0	2	55	45	1	2
U-3024WCOL-01	Red Wine, White Wine, Sparkling	Red Wine	0	0	0	2	55	45	1	2
U-3024WCS-00	Red Wine, White Wine, Sparkling	Red Wine	0	0	0	2	55	45	1	2
U-3024WCS-01	Red Wine, White Wine, Sparkling	Red Wine	0	0	0	2	55	45	1	2

Temperature Ranges of the Various Preset *U-Select™ Control*

Deli

- 34°F – 40°F, set point 36°F
- meats, fish, cheeses, dairy, butter, garlic, oils, nuts, condiments, drinks

Market

- 34°F – 40°F, set point 38°F
- fruits, vegetables, berries, lettuce

Pantry

- 34°F – 70°F, set point 42°F
- dry goods, breads, baking items, spices, seasonings

Root Cellar

- 45°F – 55°F, set point 50°F
- root vegetables, potatoes, onions, lemon, lime, melon, peppers, beans, cucumber, cut/open veggies

Beverage

- 34°F – 65°F, set point 38°F

Sparkling Wine

- 40°F – 50°F, set point 45°F

White Wine

- 45°F – 55°F, set point 50°F

Red Wine

- 55°F – 65°F, set point 55°F

Warranty Claims Procedure

NOTICE

Warranty claims must be filed within 60 days after the completion of the service call.

For fastest processing, please submit claims on-line at u-lineservice.com. Claims can also be submitted by fax or by mail.

U-Line Corporation
P.O. Box 245040
Milwaukee WI, 53224-9540, U.S.A.

FAX 1-414-354-5696

Please be sure the claim is legible. If the claim form cannot be read, it will be returned.

Warranty rates must be on file with U-Line before submittal.

Although U-Line prefers the NARDA form, any standard invoice will be accepted.

The following information must be included on the submittal:

- Complete model number
- Complete serial number
- Original consumer complaint summary
- Repair performed
- Labor (also includes refrigerant & recovery charges)
- Genuine U-Line part number(s) used during repair
  - Include invoice number/provider of these purchased part(s)
- Consumer signature & date

Claims will be returned, unpaid, if this information is not included.

If you work on more than one unit per service call please submit a separate claim for each unit.

U-Line tracks all defects through warranty claims. Please be specific on what repair was completed.

Note: U-Line covers door adjustments for 30 days after install.

U-Line will use the original ship date unless the unit has been registered with U-Line. If you have questions about the warranty status, please contact the U-Line Customer Assurance Department.

Email: onlineservice@u-line.com
Phone 1-800-779-2547

Labor and part claims are paid separately. Parts purchased directly through U-Line will be reimbursed. The original invoice number needs to be included. If a replacement part was purchased through a distributor, you must handle the part warranty directly with that company.

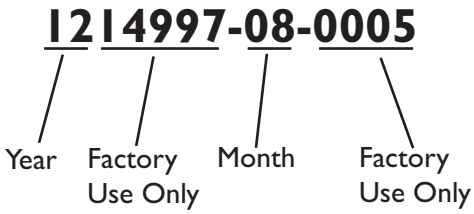
Proof of Purchase

If a copy of the Proof of Purchase/Proof of Install is not available, the technician should record the following information on the Labor Invoice:

Name of the selling dealer
Date of purchase/installation
Sales order or Invoice number
Description of verification document (i.e. Store Receipt, Closing Papers, Sign-Off of Building Permit, Final Walk Through, etc.)
Confirm model and serial number

Serial Number

The serial number is divided into four segments. A typical serial number is 1214997-08-0005.



Replacement Parts

How to Order Replacement Parts

In order to purchase parts from U-Line directly, you must have a current re-sale certificate on file. Please go to u-line.com to find a local parts distributor.

1. Refer to Service Parts and locate the illustration(s) for the model you are servicing.
2. Locate the desired part to be serviced and note the item number assigned to it.
3. Locate the item number within the parts list. Note the full description and the corresponding part number. If this is for a warranty unit, indicate and record the model and serial numbers.
4. When ordering parts, it will be necessary to supply Model Number, Serial Number, Part Number, Part Description and in some cases Color or Voltage.

All warranty parts will be shipped at no charge as long as warranty status has been confirmed. If we require that a part be returned to U-Line, you will be informed at the time the order is placed. It will be noted on your packing list if we require you to return a part or if you may field scrap it. If U-Line requires a defective part to be returned, a prepaid shipping label will be included with your new replacement part. When returning parts, enclose a copy of your packing list and a copy of your labor claim, showing the model and serial number, and tag or label the part with the nature of the defect.

Our warranty records may not match the customer's information. In this case, a proof of purchase will be required. If you do not have the proof of purchase at the time the order is placed, the part will be sent net 15 days, charged to a Visa or Master Card if you don't have an open account with U-Line Corporation. When the proof of purchase is provided, we will credit your account.

5. Parts may be ordered on-line, by FAX or phone:

u-lineservice.com

onlineparts@u-line.com

FAX Number 1-414-354-7905

Phone Number 1-414-354-0300 or 1-800-779-2547

REPLACEMENT PARTS: Use only genuine U-Line replacement parts. The use of non-U-Line parts can reduce ice rate, cause water to overflow from ice maker mold, damage the unit, and can void the warranty.

If U-Line requires the part to be returned, a pre-paid return shipping tag will be provided. Please include a copy of the service invoice and the packing list.

Thermistors

There are 3 thermistors used with the 3018/24 models.

- Zone Thermistor - Located on the right hand wall and is used to maintain temperature.
- Evaporator Thermistor - Located on the back of the evaporator plate and is used during defrost.
- Ambient Thermistor - Located in the base of the unit on the condenser and is used to monitor ambient air temperatures.

Viewing Temperature

Note: The display shows set point **NOT** the actual temperature.

The 3000 series is equipped with an advanced electronic display and control. Thermistor readings can be obtained through both the customer and service menu. The customer menu will display readings while using offset calculations. It is important to note that the system will use these adjusted readings when determining cooling and defrost cycles. The service menu will display the actual thermistor reading while disregarding offsets.

Customer Menu

To view the adjusted temperature of each available thermistor, follow the steps below.

1. Initiate the customer menu by holding Select for 5 seconds.
2. Use Down to scroll to "Actual Temperatures".
3. Press select.
4. Use Up or Down to scroll through available information.

Service Menu

To view the actual temperature without having the offsets taken into consideration, follow the steps below.

1. Initiate the service menu by holding both up and Zone Toggle for 5 seconds.
2. Use Up or Down to scroll to "Actual Temperatures".
3. Press select.

Use Up or Down to scroll through available information.

Thermistor Calibration

While thermistors generally do not require calibration, over time contact corrosion and or element wear may make calibration necessary.

Calibration

To calibrate a thermistor one must first prepare an ice water of crushed ice and water in a suitable container. Allow the ice water temperature to stabilize for at least 5 minutes before beginning.

NOTICE

Offsets are preset at the factory to efficiently maintain product temperature. If modifying offset, existing values must be taken into consideration.

NOTICE

Customer Care must be notified before any changes are made to factory set offsets. Failure to notify Customer Care will void the warranty.

1. Enter the service menu and record existing offset values for each thermistor to be calibrated. See page **16**. Some models have a factory offset setting of 0.
2. Change offset of each thermistor to be calibrated to 0.
3. Enter "Actual Temps" through the **Customer Menu**. See "Viewing Temperature".
4. Submerge the thermistor in the ice water. The temperature read out through the menu should be 32°F. If different, record difference.
5. Enter "Offsets" through the service menu and set the value recorded in step 4 to the thermistor to be calibrated.
6. Enter "Actual Temps" through the **Customer Menu**, the temperature readout should now be 32°F. If the readout is still incorrect reset the offset to 0 and perform steps 4 & 5 again.
7. Enter the "Offsets" menu and add the value recorded in step 1 to the new offset setting. For example, if after the ice water an offset of 1 was needed and the existing offset value recorded in step 1 was -2 the new offset value would be -1. If the calculated value is outside the maximum range capable in the offset menu the thermistor must be replaced. The offset menu has a maximum range of -10 through 10.

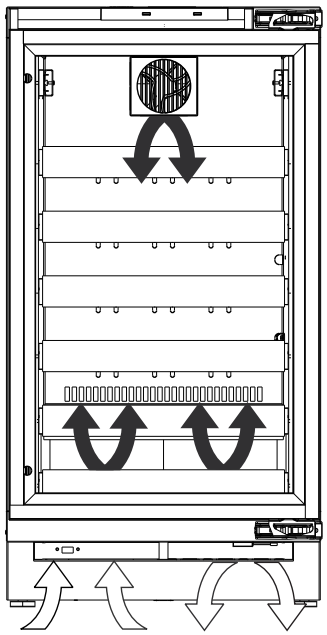
Note: If a mistake is made in the calibration process a "Factory Default" will restore offsets to their factory pre-set values. See page **17**.

Air Flow

NOTICE

The unit requires proper air flow to perform at its highest efficiency. Do not block the front grille, internal fans or vents at any time, or the unit will not perform as expected. Do not install the unit behind a door.

Door Removed For Illustration Purposes



Internal Air Flow And Unit Ventilation Diagram

Initial Startup

All U-Line controls are preset at the factory. Initial startup requires no adjustments.

NOTICE

U-Line recommends allowing the unit to run overnight before loading refrigerator with product.

To power the unit on simply press POWER ⏻ and the unit will immediately switch on. To turn the unit off, press and hold POWER ⏻ for 5 seconds and release. The display will show a countdown to switching the unit off.

U-Select® Control

Digital Display

The 3000 Series units are controlled by a feature rich, advanced OLED display control unit. The control panel allows adjustment to temperature set point, access to Energy Saver Mode, internal temperature readings, and many other features.

Note: A U-Line Control Simulator is available on-line. It is located on the service website. To access this website you must have a user name and password. Please go to http://www.u-line.com/control-simulator/ to access the U-Line Control Simulator.

Adjusting Temperature Settings

Each zone has a series of Mode Settings with a default value for each mode. Each mode setting can be further customized by fine tuning the temperature set point. See the table below for a description of each mode and mode temperature ranges. Mode selection will vary by model.

Mode Settings Chart

Setting	Default (°F)	Range (°F)
Red Wine	55°	55° - 65°
White Wine	50°	45° - 55°
Sparkling Wine	45°	38° - 50°
Beverage	38°	34° - 65°
Market	38°	34° - 40°
Root	50°	45° - 55°
Pantry	42°	34° - 70°
Deli	36°	34° - 40°

Available mode settings will vary with model.

1. Press Select ◎ to activate Mode Settings.
2. Pressing Select ◎ will cycle through each available mode. Reference the mode settings chart on pages **4** and **5** for each setting's default set point and range.
3. Once you have selected your desired mode, the default set temperature will display. You may further fine tune the temperature by pressing Up ⌃ or Down ⌄.

Quick Chill

⚠ CAUTION

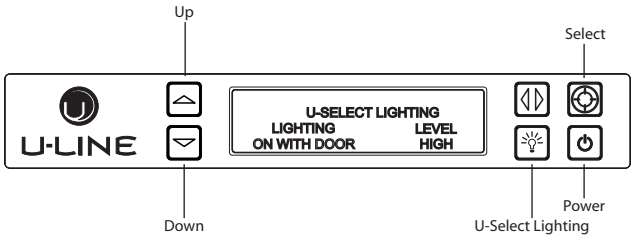
Quick chill is designed to quickly pull warm beverages and foods down to optimum storage temperature. It is important to only initiate quick chill modes when the unit has been fully loaded with warm product.

To Initiate quick chill

1. Press Select ◎ to select the desired mode setting.
2. Press Down ⌄ until the temperature set point reads "Quick".

The quick chill feature will then begin for the period of time dictated by the mode type. To cancel quick chill simply select a set point other then "quick".

Interior Lighting



U-Line 3000 Series unit uses a state of the art theatre style LED lighting system.

Note: Lighting system is designed to fade in and out when switching states.

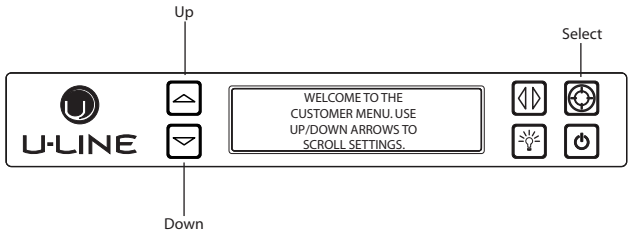
1. To begin, press U-Select Lighting to enter the lighting menu.
2. Use Up or Down to cycle through each available brightness setting; Low, Medium, or High.
3. Use U-Select Lighting to cycle through each available timer setting. Selections include "On With Door", "On 3 Hours", "On 6 Hours", or "On 24 Hours".
4. To exit, press Select or simply wait for the menu to time out.

Error Notification

The 3000 model series continuously monitors a series of inputs and parameters to ensure proper and efficient operation of your unit. Should the system detect a fault, an error notification will be displayed on the user interface. These errors are considered active and can also be viewed in the Self Test and All Errors mode of the service menu. See below for a list of errors and possible solutions.

ID	Description	Solution
No Comm	Unit lost communication to the display.	Inspect Customer UI and Data Cable (if defective replace entire door)
Zone T Open	Left or right zone thermistor circuit open.	Check connection. Replace if necessary.
Amb Thrm Open	Ambient thermistor circuit open.	Check connection. Replace if necessary.
Zone T Short	Left or right zone thermistor circuit shorted.	Check connection. Replace if necessary.
Amb Thrm Short	Ambient thermistor circuit shorted.	Check connection. Replace if necessary.
Temp Hi 6H+	Left or right Zone temperature +10° over set point for over 6 hours.	Check compressor, evaporator fan and related relays and DC outputs.
Temp Hi 12H+	Zone temperature +10° over set point for over 12 hours.	Check compressor, evaporator fan and related relays and DC outputs.
Temp Lo 6H+	Zone temperature -10° under set point for over 6 hours.	Check compressor, evaporator fan and related relays and DC outputs.
Temp Lo 12H+	Zone temperature -10° under set point for over 12 hours.	Check compressor, evaporator fan and related relays and DC outputs.
Door Open 5M	Door switch open for more then 5 minutes.	Verify door is closed and sealing. Check reed switch and related connections.

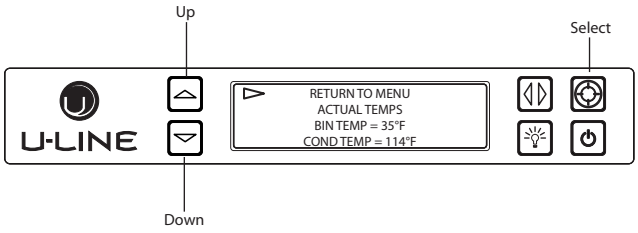
Customer Menu



The 3000 Series of U-Line undercounter refrigeration appliances contain a feature rich customer menu. The Customer Menu allows access to a series of advanced features including Energy Saver Mode, Sabbath mode, Actual Temp readings as well as a method to restore factory defaults.

1. To access the Customer Menu hold down Select for 5 seconds.
2. Use Up or Down to scroll through available selections.
3. Use Select to enter selected sub-menu.
4. To exit Customer menu, Use Down to scroll to the bottom of the display and use Select to Select "Exit".

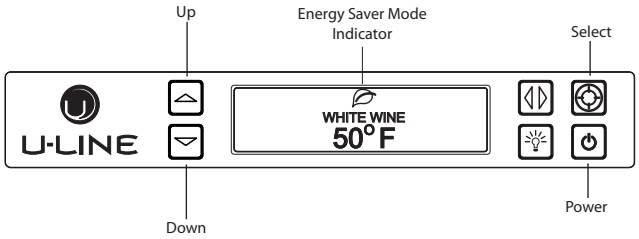
Actual Temps



The "Actual Temps" option displays the offset corrected temperature of each zone, evaporator, as well as ambient temperature.

1. To view actual temperatures first select "Actual Temps" from the customer menu.
2. Use Up or Down to scroll through available information.
3. To exit, Select Return to Menu.

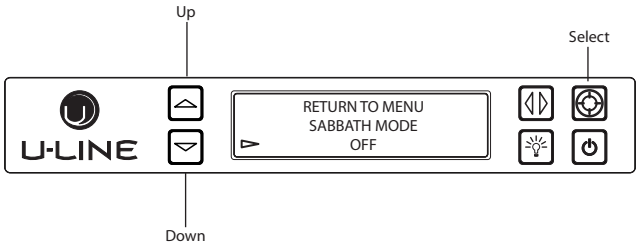
Energy Saver



Energy Saver mode reduces overall energy consumption by altering user set point, differential, lighting and tone settings. When in Energy Saver mode a small leaf icon will be displayed on the main screen.

1. To enter Energy Saver first select Energy Saver from the Customer Menu.
2. Use Down to select "Off" in the menu.
3. Press Select.
4. Use Up or Down to change the selection from "Off" to "On".
5. Press Select to confirm your selection.
6. To exit Energy Saver mode simply return to the Customer Menu, Select Energy Saver mode and change "On" to "Off".

Sabbath Mode

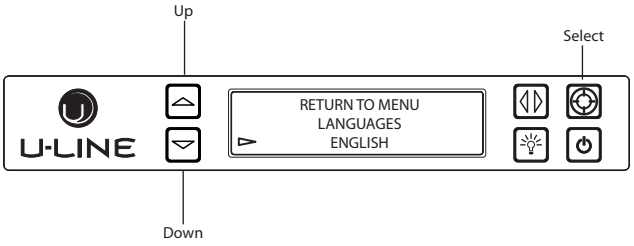


The U-line 3000 Series of models offer a Sabbath mode for users who require this functionality during Sabbaths. Sabbath mode disables system responses to user initiated activities and all external functions; including lighting, display and audible alarms. The unit will still maintain internal temperatures and set points.

1. To enter Sabbath Mode, select Sabbath Mode from the Customer Menu.
2. Use Down to select "Off".
3. Press Select, "Off" will begin to flash.
4. Use Up or Down to change "Off" to "On".
5. Press Select to Confirm your selection.

The display will fade out as the unit enters Sabbath mode. Sabbath remains active until Power is pushed.

Languages

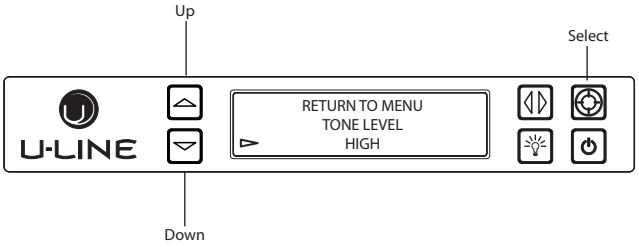


The U-Line 3000 Series of models supports a number of display languages including English, Spanish, French and German.

To change display language select "Languages" from the Customer Menu.

1. Use Down to select "English".
2. Press Select, "English" will begin to flash.
3. Use Up or Down to cycle through the available languages.
4. Press Select to confirm your choice.

Sound Level

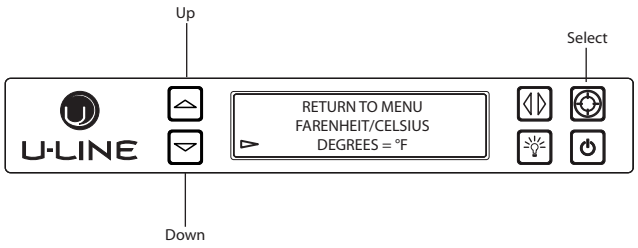


Audible alarms and alert tones support four different Sound Level settings, High, Medium, Low, and Off.

To select a new sound level, enter the Sound Level menu from the Customer Menu.

1. Use Up or Down to select the current sound level.
2. Press Select, the current setting will begin to flash.
3. Use Up or Down to select a different level.
4. Use Select to confirm your choice.

Fahrenheit / Celsius

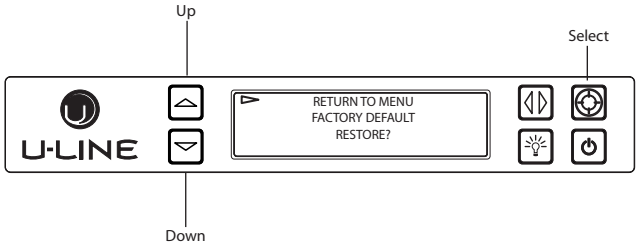


Temperature and Set point information can be displayed in either Fahrenheit or Celsius.

To change from Fahrenheit to Celsius enter the Fahrenheit / Celsius menu from within the Customer Menu.

1. Use Down to select "Degrees".
2. Press Select, the selection will begin to flash.
3. Use Up or Down to select between °F (Fahrenheit) or °C (Celsius).
4. Press Select to confirm your choice.

Factory Default



Factory Default will restore all settings to their factory default.

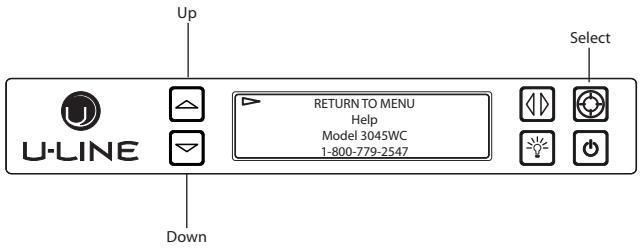
To access Factory Default

1. Use Down to select "Factory Default".
2. Press Select.

To restore settings to their factory default.

3. Use Down to select "Restore?" and press Select.
4. "Restore?" will change to "Restoring..." while settings are restored. When restoration is complete, "Restoring..." will return to "Restore".
5. To exit Factory Default use Up to select "Return to Menu" and press Select to confirm.

Help



To access the Help menu select Help from the Customer Menu. Use Up or Down to scroll through available information. The Help screen displays the following.

- Model.
- U-Line contact information.
- Software version.
- Serial Number.

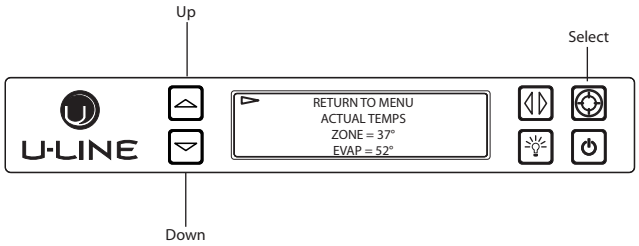
To exit the Help menu use Up to select "Return to Menu" and press Select to confirm.

Service Menu

In addition to a feature rich customer menu, the 3000 series also offers a service menu with the ability to fine tune and monitor unit operation.

To initiate the Service menu hold both Up and Zone Toggle for 5 seconds.

Actual Temps

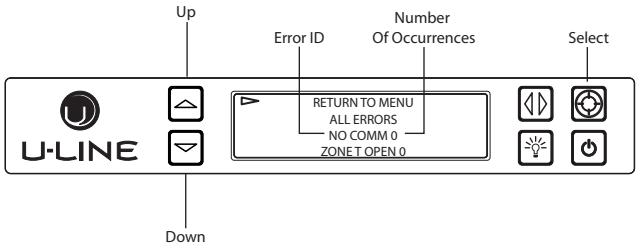


The Actual Temp option in the service menu will display raw thermistor readings without calculating offsets.

1. Use Down to select "Actual Temps".
2. Press Select.
3. Use Up and Down to scroll through available thermistor readings.

To exit the Actual Temps menu use Up to select "Return to Menu" and press Select to confirm.

All Errors



The All Errors option keeps record of any system errors. When an error occurs it is recorded to all errors. The number next to the error indicates the number of recorded instances. Errors in the log may not be currently active. The error log memory is non volatile and is persistent should power be lost and restored to the unit. See below for a list of logged errors and their respective descriptions.

ID	Description	Solution
No Comm	Unit lost communication to the display.	Check display cable. Replace if necessary.
Zone T Open	Zone thermistor circuit open.	Check connection. Replace if necessary.
Evap T Open	Evaporator thermistor circuit open.	Check connection. Replace if necessary.
Amb Thrm Open	Ambient thermistor circuit open.	Check connection. Replace if necessary.
Zone T Short	Zone thermistor circuit shorted.	Check connection. Replace if necessary.
Evap T Short	Evaporator thermistor circuit shorted.	Check connection. Replace if necessary.
Amb Thrm Short	Ambient thermistor circuit shorted.	Check connection. Replace if necessary.
Temp Hi 6H+	Zone temperature +10° over set point for over 6 hours.	Check compressor, evaporator fan and related relays and DC outputs.
Temp Hi 12H+	Zone temperature +10° over set point for over 12 hours.	Check compressor, evaporator fan and related relays and DC outputs.
Temp Lo 6H+	Zone temperature -10° under set point for over 6 hours.	Check compressor, evaporator fan and related relays and DC outputs.
Temp Lo 12H+	Zone temperature -10° under set point for over 12 hours.	Check compressor, evaporator fan and related relays and DC outputs.
Door Open 5M	Door switch open for more then 5 minutes.	Check reed switch and connection.

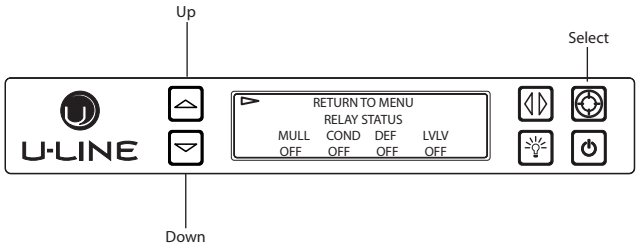
To access All Errors follow the steps below.

1. Use Down to select "All Errors".
2. Press Select.
3. Use Up and Down to scroll through available information.

To clear the error log use Down to select "Clear Errors" and press Select to confirm.

To exit the Actual Temps menu use Up to select "Return to Menu" and press Select to confirm.

Relay Status



Relay status displays the current state of each relay. While all available relays are displayed, only a portion are used.

ID	Description	Status
Mull	Mullion Heater	Not Used
Cond	Condenser Fan	Not Used
Def	Defrost Valve	Not Used
LVLV	Left Valve	Not Used
RVLV	Right Valve	Not Used
Pan	Pan Heater	Not Used
Comp	Compressor	Used

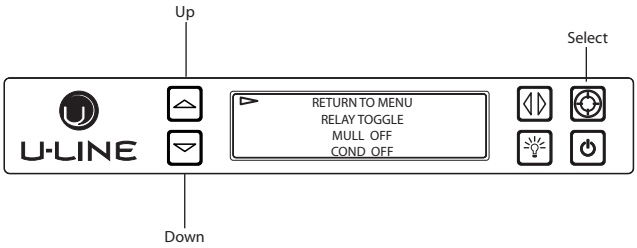
Note: The Cond (Condenser Fan) will switch state with the compressor relay, however the condenser fan is actually powered through a DC output and is independent of the Cond relay. Condenser fan status can be viewed through the "Output" service menu option.

To access Relay Status

1. Use Down to select "Relay Status".
2. Press Select.
3. Use Up and Down to scroll through available information.

To exit the Relay Status simply press Select to exit.

Relay Toggle



Relay toggle is used to manually switch the state of each relay to test for proper operation. In addition to the AC relays, DC outputs may also be toggled. Relay toggle can also be used to force the unit into a particular state. For example, to force a 3018 / 3045 into a cooling cycle activate Comp, F1, and F3.

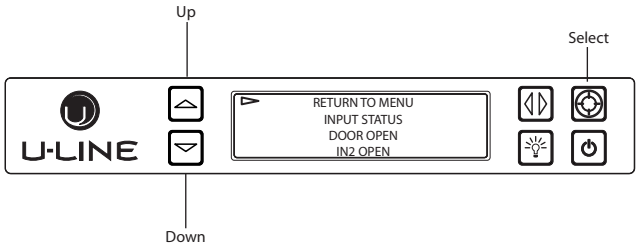
ID	Description	Type
Mull	Mullion Heater (Not Used)	AC
Cond	Fan (Not Used)	AC
Def	Defrost Valve (Not Used)	AC
LVLV	Left Valve (Not Used)	AC
RVLV	Right Valve (Not Used)	AC
Pan	Pan Heater (Not Used)	AC
Comp	Compressor	AC
F1	Evaporator Fan	DC
F2	Evaporator Fan (Not Used)	DC
F3	Condenser Fan	DC
L1	Cabinet Lighting	DC
L2	Cabinet Lighting (Not Used)	DC

To access Relay Toggle

1. Use Down to select "Relay Toggle".
2. Press Select.
3. Use Up and Down to scroll through each relay or DC output.
4. Press Select to toggle.

To exit the Relay Toggle menu use Up to select "Return to Menu" and press Select to confirm.

Input Status



Input status displays the current state of each available input as well as the current USB connection state.

ID	Description	States
Door	Door Switch	Open - Closed
IN2	Input 2 - Not Used	Open
Test Input	Factory Test Input	Open
USB	USB Connection State	Flash - Com Port

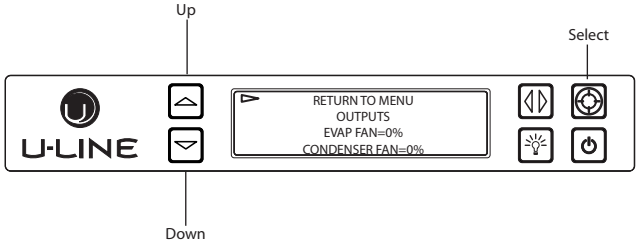
Note: USB status shows current connection state. In order to make a successful connection USB connection type must be properly set in "USB Port" under the service menu.

To access Input Status

1. Use Down to select "Input Status".
2. Press Select.
3. Use Up and Down to scroll through available information.

To exit the Input Status menu use Up to select "Return to Menu" and press Select to confirm.

Outputs



Outputs is used to monitor the state of DC outputs.

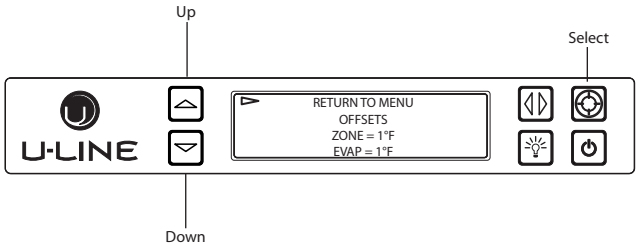
ID	Description	States
Evap Fan	Evaporator Fan	0 - 100%
Condenser Fan	Condenser Fan	0 - 100%
Light	Interior Lighting	Off - Low - Med - High

To access Outputs

1. Use Down to select "Outputs".
2. Press Select
3. Use Up and Down to scroll through available information.

To exit the Outputs Status menu use Up to select "Return to Menu" and press Select to confirm.

Offsets



NOTICE

Customer care MUST be notified and approve of any changes to the differential before they are made. Failure to notify customer care will void the warranty.

Offsets are used to adjust or correct thermistor readings. Offset values are added to the current thermistor reading and are then used by the control board to determine cooling and defrost cycle times. Offsets have a range of +/- 10°F. Corrected values may be viewed through the customer "All Temps" menu or TTY output.

To access Offsets

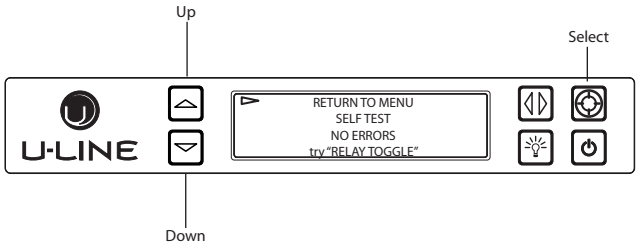
1. Use Down to select "Offsets".
2. Press Select.
3. Use Up and Down to scroll through available thermistors.

To change offset

4. Press Select, the selected thermistor will begin to flash.
5. Use Up or Down to modify offset value.
6. Press Select to confirm setting.

To exit the Offset menu use Up to select "Return to Menu" and press Select to confirm.

Self Test



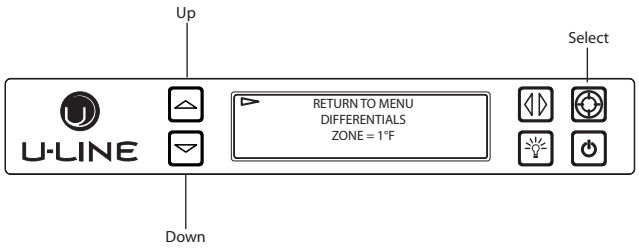
Self test is used to initiate a self diagnostic report. Any system faults will be displayed under Self test. If no errors are present "no errors" will be displayed and the main control board is functioning properly. If an error is listed attempt to correct it before changing control board. See troubleshooting for tips on correcting errors.

To access Self Test

1. Use Down to select "Self Test".
2. Press Select.
3. Use Up and Down to scroll through available information.

To exit the Self Test use Up to select "Return to Menu" and press Select to confirm.

Differentials



NOTICE

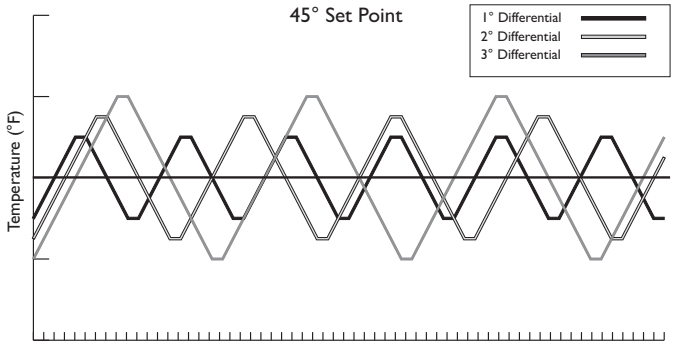
Customer care MUST be notified and approve of any changes to the differential before they are made. Failure to notify customer care will void the warranty.

Differentials are used to determine the maximum variation from set point and have a range of 0 through 10. The table below shows the effect of differentials on cooling cycles with a set point of 45°.

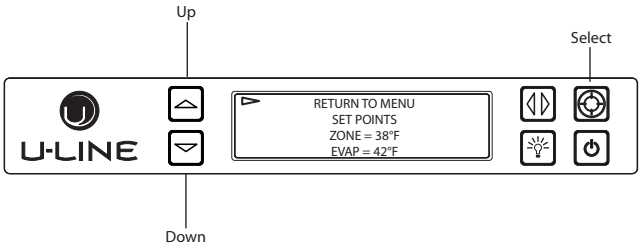
Note: Air temperature does not reflect product temperatures.

Differential	Cycle Start	Cycle End
0	46°	44°
1	47°	43°
2	48°	42°
3	49°	41°
4	50°	40°
5	51°	39°

The graph below shows a unit's cooling cycle over time with various differentials.



Set Points



The Set points menu contains options to modify both the Zone and Evap set points. Changes to the zone set point will be reflected on the main screen. Changes to the evap set point alter the temperature the evaporator needs to meet during a defrost cycle.

To access Set Points

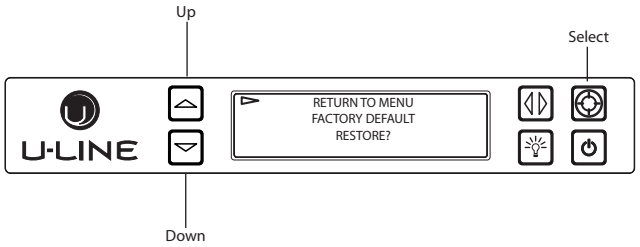
1. Use Down to select "Set Points".
2. Press Select.
3. Use Up and Down to scroll through available set points.

To change set point

4. Press Select, the selected set point will begin to flash.
5. Use Up or Down to modify the value.
6. Press Select to confirm setting.

To exit the Set Points menu use Up to select "Return to Menu" and press Select to confirm.

Factory Default



Factory Default will restore all settings to their factory default.

To access Factory Default

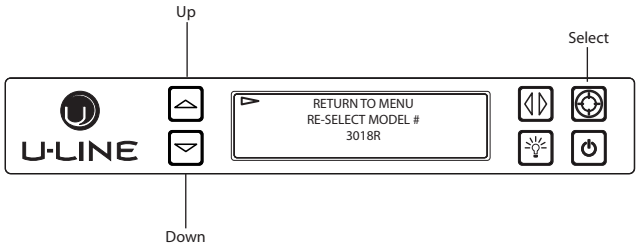
1. Use Down to select "Factory Default".
2. Press Select.

To restore settings to their factory default

3. Use Down to select "Restore?" and press Select.
4. "Restore?" will change to "Restoring..." while settings are restored. When restoration is complete, "Restoring..." will return to "Restore".

To exit Factory Default use Up to select "Return to Menu" and press Select to confirm.

Re-Select Model



NOTICE

Before altering model selection, U-Line customer service must be notified. Failure to notify customer service will result in voiding of the manufacturer warranty. Call U-Line Customer Service for assistance.

Re-Select Model allows the unit's model configuration to be modified. Changing the unit's model completely reprograms available zones, relay assignments, dc output assignments, etc.

To access Re-Select Model

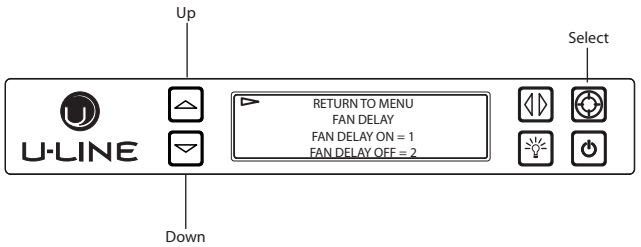
1. Use Down to select "Re-Select Model".
2. Press Select.

To alter model setting

3. Use Down to select "Model=" and press Select. "Model" will begin to flash.
4. Press Up or Down to scroll through each available model.
5. Press Select to confirm.

To exit Re-Select Model use Up to select "Return to Menu" and press Select to confirm.

Fan Delay



The Fan Delay menu option allows the modification of fan run times during and after a cooling cycle. In order to allow time for the evaporator to properly cool, the evaporator fan is delayed from starting with the cooling cycle for a given amount of time. In order to remove as much warmth as possible from the cabinet, the evaporator fan will continue to run at the end of the cooling cycle for a given amount of time.

Fan Delay On =

"Fan Delay On" is the amount of time in minutes the fan will be delayed from starting from the beginning of a cooling cycle.

Fan Delay Off =

"Fan Delay Off" is the amount of time in minutes the fan will continue to run at the end of a cooling cycle.

To access Fan Delay

1. Use Down to select "Fan Delay".
2. Press Select.

To alter fan settings

3. Use Down to select either "Fan Delay On" or "Fan Delay Off" and press Select. The chosen option will begin to flash.
4. Press Up or Down to change settings.
5. Press Select to confirm.

To exit Fan Delay use Up to select "Return to Menu" and press Select to confirm.

USB Communication

The 3000 series uses an advanced USB logging feature for system logging and diagnostics. The controller outputs 36 separate data points per second to either a USB flash disk or transmitted over USB via TTY to a client PC. To prepare the unit for logging, first verify the USB port is set to the proper configuration. See "USB Port" for information on configuring the USB port.

Flash Mode:
Suitable for logging directly to a USB flash disk.

PC Link Mode:
Suitable for communicating directly with a PC via USB.

USB Communication (Flash)

The main control can host a wide range of flash disks up to a maximum capacity of 8GB. After verifying the USB port is set to "Flash", simply insert a flash disk in to the USB port located above the grille. The flash disk activity light (located on the flash disk) will begin flashing immediately as data is recorded to the drive. Data is recorded in one second increments and is only limited by the capacity of the flash disk.

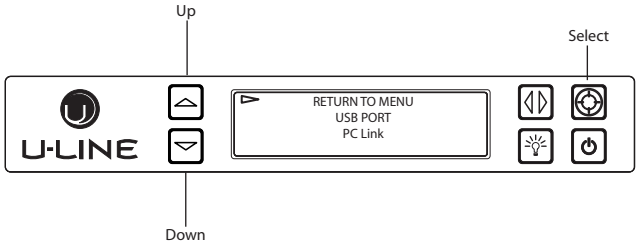
The system will create a file named "uline.csv" on the flash disk. In the event the file already exists, new data will automatically be appended to the end of the existing file. The file is output in a comma delineated text format and may be viewed in a wide variety of simple text readers or spreadsheet programs.

For information on identifying each data point, see the "Communication Data" table on page **20**.

USB Communication (PC Link)

Data can be transmitted directly to a client PC via a serial connection. Verify the USB port is set to "PC Link". Use a Type A to Type A male to male USB cable to connect the system to a Windows® compatible PC. It is necessary to install communication drivers to the client PC. Drivers may be downloaded at u-lineservice.com. Establish a connection using a Telnet / TTY terminal application. U-Line recommends PuTTY. PuTTY is available for download at u-lineservice.com. Once the connection is established, the controller will output a series of 36 data points in 1 second increments. For information on identifying each data point, see the "Communication Data" table on page **20**.

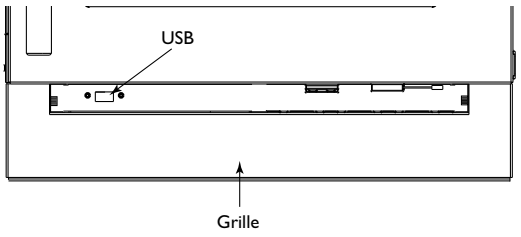
USB Port



The USB Port menu option allows the selection of a communication mode. The 3000 Series can communicate either via TTY to a PC or log diagnostic information directly to a USB flash disk.

ID	Communication
PC Link	PC TTY
Flash	USB Flash Drive

NOTE: Unit ships in PC link mode.



To alter communication settings

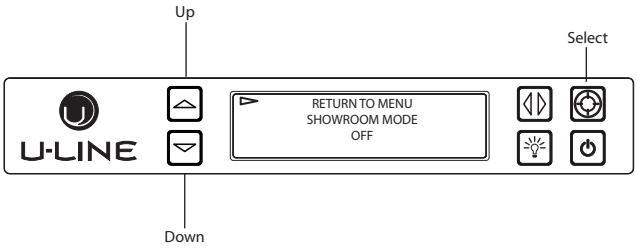
1. Use Down to select the current setting and press Select.
2. Press Up or Down to change settings.
3. Press Select to confirm.

To exit "USB Port" use Up to select "Return to Menu" and press Select to confirm.

To access USB Port

1. Use Down to select "USB Port".
2. Press Select.

Showroom Mode



Showroom displays a number of features and allows the unit to be powered on without running the cooling system.

To toggle showroom mode

1. Use Down to select "Showroom Mode".
2. Press Select.
3. Use Down to select "Off" and press Select. "Off" will begin to flash.
4. Press Up or Down to toggle between off and on.
5. Press Select to confirm.

If set to "on" showroom mode will begin immediately. To exit showroom mode press and release Power.

To exit the showroom mode menu use Up to select "Return to Menu" and press Select to confirm.

Communication Data ID Table (Sample Temperatures in F)

Field	1	2	3	4	5	6	7	8	9	10
ID	Time Live	Zone Temp	Not Used	Evap Temp	Not Used	Ambient Temp	Proc Temp	Zone ID	Set Point	Differential
Sample Data	1525	36	---	5	---	85	111	Beverage	34	1

Field	11	12	13	14	15	16	17	18	19	20
ID	Zone Offset	Evap Offset	Door Indicator	Not Used	Relay 1 Indicator	Relay 2 Indicator	Relay 3 Indicator	Relay 4 Indicator	Relay 5 Indicator	Relay 6 Indicator
Sample Data	0	0	---	---	---	2	---	---	---	---

Field	21	22	23	24	25	26	27	28	29	30
ID	Relay 7 Indicator	Evap Fan Indicator	Not Used	Cond Fan Indicator	Light Level	Not Used	Energy Saver	Sabbath	Power Indicator	Comp Timer
Sample Data	7	1	---	3	0	---	---	---	---	45

Field	31	32	33	34	35	36
ID	Comp Cumulative	Defrost Timer	Fan 1 Timer	Not Used	Limp Timer	Not Used
Sample Data	500	---	0	0	0	0

Field	Value
1	Time in seconds since unit plugged in.
2	Temperature of Zone in °F/°C.
3	Not used.
4	Not used.
5	Not used.
6	Ambient temperature in base of unit °F/°C.
7	Board processor temperature.
8	Zone identification tag.
9	Zone set point in °F/°C.
10	Differential value in °F/°C.
11	Zone offset value in °F/°C.
12	Evaporator offset value in °F/C.
13	Door status indicator. “L” = Open “---” = closed.
14	Not used.
15	Relay 1 (unassigned). “1” = active, “---” = inactive.
16	Relay 2 (unassigned). “2” = active, “---” = inactive.
17	Relay 3 (unassigned). “3” = “active”, “---” = inactive.
18	Relay 4 (unassigned). “4” = “active”, “---” = inactive.

Field	Value
19	Relay 5 (unassigned). “5” = active, “---” = inactive.
20	Relay 6 (unassigned). “6” = active, “---” = inactive.
21	Compressor relay. “7” = active, “---” = inactive.
22	Evaporator fan. “1” = active, “---” = inactive.
23	Not used.
24	Condensor fan. “3” = active, “---” = inactive.
25	LED intensity, provided in %.
26	Not used.
27	Energy Saver mode indicator. “E” = active.
28	Sabbath mode indicator. “S” = active.
29	Soft power indicator. “P” = unit in “On” mode.
30	Compressor state change timer, in seconds.
31	Compressor cumulative run time, in seconds.
32	Max remaining defrost time, in seconds.
33	Evaporator fan state change timer, in seconds.
34	Not used.
35	Cumulative time spent in limp mode, in seconds.
36	Not used.

Note: Relay 2 will cycle with relay 7, this is considered normal.

Quick Guide

3000 Series

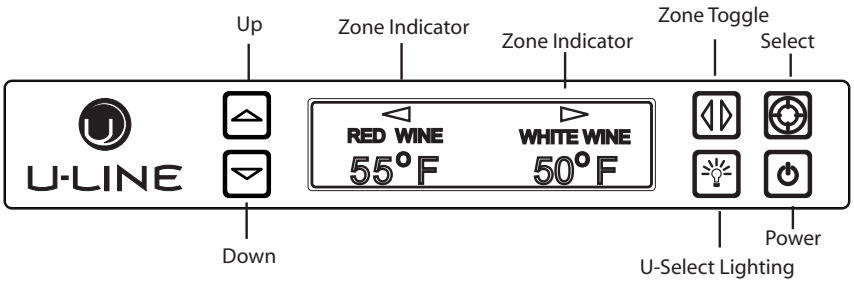
ZONE - THE 3018 & 3036 ZONE IS AN 18 INCH SPACE.
THE 3036 HAS 2 ZONES, THE 3018 HAS 1 ZONE
THE 3024 ZONE IS AN 24 INCN SPACE. THE 3024 HAS 1 ZONE.

MODE - EACH ZONE CAN BE SET TO DIFFERENT MODES. (see list)

MODES	
Wine Captain Zones	
Temperature Ranges	
38° - 50°	Sparkling Wine
45° - 55°	White Wine
55° - 65°	Red Wine

MODES	
Refrigerator Zones	
Temperature Ranges	
34° - 40°	Deli
34° - 65°	Beverage
34° - 40°	Market
45° - 55°	Root
34° - 70°	Pantry

1	OFF	PRESS AND HOLD	DISPLAY WILL COUNT DOWN FROM 5 TO OFF	
2	ON	PRESS AND RELEASE	UNIT WILL COME ON IMMEDIATELY	
3	3036 ADJUST MODE	PRESS TO SELECT ZONE	PRESS AND RELEASE TO SCROLL THROUGH THE MODES	
	3018 & 3024 ADJUST MODES	PRESS AND RELEASE TO SCROLL THROUGH THE MODES		
4	3036 ADJUST TEMPERATURE	PRESS TO SELECT ZONE	PRESS TO SET THE TEMPERATURE OR	
	3018 & 3024 ADJUST TEMP	PRESS TO SET THE TEMPERATURE OR		
5	3036 ADJUST LIGHTING	PRESS TO ADJUST LIGHTING	PRESS TO SELECT ZONE	PRESS TO SET LOW MEDIUM OR HIGH OR
	3018 & 3024 ADJUST LIGHTING	PRESS TO ADJUST LIGHTING	PRESS TO SET LOW MEDIUM OR HIGH OR	
	LIGHT ON/OFF WITH DOOR	PRESS TO HAVE LIGHT ON/OFF WITH DOOR	PRESS AND RELEASE TO SCROLL THROUGH TIMER SETTINGS	3036 ZONES WILL DEFAULT TO THE SAME TIMER SETTING
6	CUSTOMER MENU	PRESS AND HOLD FOR 5 SECONDS	PRESS TO SCROLL THROUGH MENU OR	"ACTUAL TEMPERATURES" DISPLAY INCLUDES OFFSETS
7	SERVICE MENU	PRESS AND HOLD FOR 5 SECONDS AND	PRESS TO SCROLL THROUGH MENU OR	"ACTUAL TEMPERATURES" DISPLAY DOES NOT INCLUDE OFFSETS



TO ENTER THE MAIN SERVICE MENU

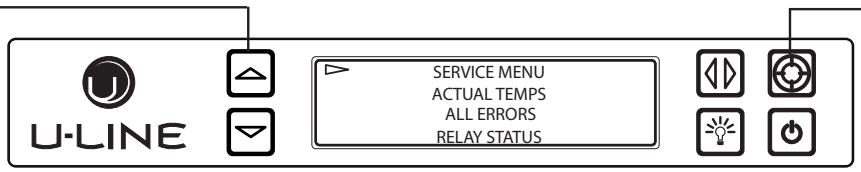
PRESS AND HOLD FOR 5 SECONDS AND

TO GO TO NEXT SUB-MENU ITEM
YOU MUST ARROW UP TO "RETURN TO MENU"

TOUCH AND RELEASE TO RETURN TO THE MAIN MENU

SCROLL THROUGH MENU

ENTER & EXIT SUB-MENU ITEM



REVIEW ACTUAL TEMPS	SHOWS TEMPERATURES WITHOUT OFFSETS. EACH ZONE HAS AN EVAP AND AIR THERMISTOR. EACH UNIT HAS AN AMBIENT THERMISTOR	RETURN TO MENU ACTUAL TEMPS LEFT ZONE = 52° LEFT EVAP = 52°
REVIEW ERROR LOG	DISPLAYS THE NUMBER OF TIMES AN ERROR HAS OCCURRED. SCROLL TO THE END TO ERASE THE ERROR CODES	RETURN TO MENU ALL ERRORS NO COMM 3 L ZONE T OPEN 0
RELAY STATUS	DISPLAYS THE CURRENT STATUS OF THE RELAYS ON THE BOARD (not all relays are used on all models)	RETURN TO MENU RELAY STATUS MULL COND DEF LVLV OFF OFF OFF ON
RELAY TOGGLE	ALLOWS THE RELAYS TO BE TOGGLED ON/OFF TO CHECK RELAY & COMPONENT. YOU CAN TURN ON MULTIPLE RELAYS TO CHECK A ZONE, (COMP FAN ETC)	RETURN TO MENU RELAY TOGGLE MULL OFF COND OFF
INPUTS	DISPLAYS DOOR SWITCH STATE, TEST INPUT, AND USB STATE	RETURN TO MENU INPUTS LEFT DOOR CLOSED RIGHT DOOR OPEN
OUTPUTS	MONITORS THE STATE OF DC OUTPUTS (evap & condenser fans 0 - 100% and lighting off - low - med - high)	RETURN TO MENU OUTPUTS L EVAP FAN = 0% R EVAP FAN = 0%
OFFSETS	OFFSETS ARE USED TO ADJUST OR CORRECT THERMISTOR READINGS. CORRECTED VALUES MAY BE VIEWED THROUGH THE CUSTOMER MENU	RETURN TO MENU OFFSETS RIGHT ZONE = -2°F RIGHT EVAP = 0°F
SELF TEST	SELF TEST IS USED TO DIAGNOSE THE BOARD. IF NO ERRORS ARE PRESENT "NO ERRORS" WILL BE DISPLAYED, THE MAIN BOARD IS FUNCTIONING PROPERLY	RETURN TO MENU SELF TEST NO ERRORS
DIFFERENTIALS	DIFFERENTIALS ARE USED TO DETERMINE AT WHAT TEMPERATURE THE UNIT CYCLES. "O" SETTING IS +/- 2° DIFFERENTIAL	RETURN TO MENU DIFFERENTIALS LEFT = 2°F RIGHT = 2°F
SET POINTS	THE SET POINTS MENU IS USED TO MODIFY BOTH THE ZONE AND EVAP SET POINTS. THE EVAP SET POINT IS USED DURING DEFROST, IT MUST REACH 42°	RETURN TO MENU SET POINTS LEFT ZONE = 55°F LEFT EVAP = 45°F
FACTORY DEFAULTS	FACTORY DEFAULT IS USED TO RESTORE ALL SETTINGS TO THE FACTORY DEFAULT FOR THE SELECTED MODEL	RETURN TO MENU FACTORY DEFAULT RESTORE?
RESELECT MODEL	RE-SELECT MODEL IS USED TO MODIFY THE MODEL INFORMATION. CHANGING THE MODEL COMPLETELY REPROGRAMS AVAILABLE ZONES	RETURN TO MENU RE-SELECT MODEL 3036WCWC
FAN DELAY	FAN DELAY ALLOWS MODIFICATION OF FAN RUN TIMES BOTH AT THE START OF A COOLING CYCLE AND AT THE END AFTER THE COMPRESSOR STOPS	RETURN TO MENU FAN DELAY FAN 1 DELAY OFF = 1 FAN 2 DELAY ON = 2
USB PORT	CONFIGURES THE ON-BOARD USB PORT FOR FLASH DRIVE OR PC LINK	RETURN TO MENU USB PORT FLASH DRIVE
SHOWROOM MODE	RANDOMLY SCROLLS THROUGH ZONES, MODES, TEMPERATURES AND OTHER FEATURES. TOUCH AND HOLD TO EXIT SHOWROOM MODE	RETURN TO MENU SHOWROOM MODE OFF
EXIT	SCROLL DOWN TO "EXIT". TOUCH AND RELEASE TO EXIT SERVICE MODE.	FAN DELAY USB PORT SHOWROOM MODE EXIT

Convection Cooling

All 3000 series units are equipped with an advanced convection cooling system. Convection cooling stabilizes cabinet temperature, cools product faster and increases energy efficiency.

Evaporator Fan

The evaporator fan is responsible for circulating warm air from the refrigeration zone, past the evaporator and back into the refrigerated zone.

The evaporator fan is factory set to have a 1 minute delay at the beginning of a cooling cycle. This delay gives the evaporator time to cool properly before warm air is passed over it. The fan will continue to run for an additional 2 minutes at the end of a cooling cycle. Fan delay times can be modified through the service menu. See "Fan Delay" on page **17**.

Evaporator fan operation is also determined by door switch state. If the door switch circuit opens the fan will stop. When the door switch circuit is closed the fan will either continue running with the cooling cycle, or if not currently cooling, the fan will run for 1 minute to circulate air and clear any condensation that may have appeared on glass doors and shelves.

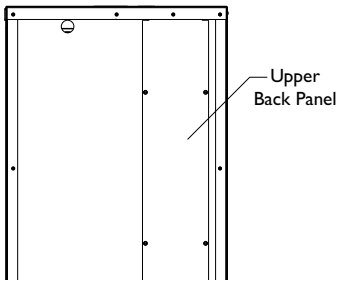
Note: If the unit is set to sabbath mode the evaporator fan will no longer respond to the state of the door switch.

In order to operate efficiently the evaporator fan blade and vents should be unobstructed and free of any dust buildup.

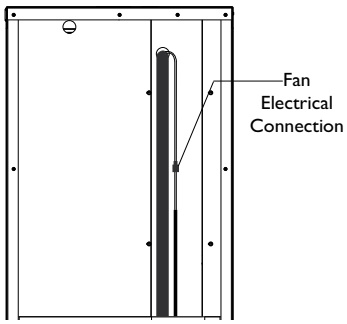
Evaporator Fan Replacement

Should the evaporator fan need to be replaced follow the steps below.

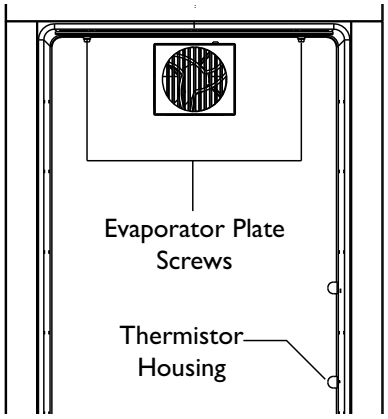
1. Remove any product from the unit.
2. Disconnect power to the unit.
3. Remove upper back panel.



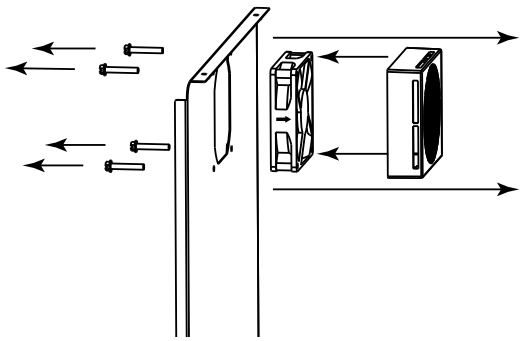
4. Disconnect fan electrical connection



5. Remove insulating foam from refrigerant line pass-through hole.
6. Remove internal shelving, bins, or wine racks.
7. Remove shelf clips, rack, or bin mounting rails.
8. Remove thermistor housing.
9. Remove two evaporator plate screws from top of evaporator plate.



10. Grasp evaporator fan shroud and gently pull plate away from the rear of the unit.
11. While pulling the evaporator plate clear of the unit, it may be necessary to use your free hand to manipulate the fan plug end through the pass-through hole.
12. Remove the 4 screws mounting the fan shroud to the evaporator plate.



Note: When installed, arrow on fan points away from evaporator.

13. Remove and replace fan. Take special care to properly route fan wire.

NOTICE

Fan must be oriented to pull air in through lower evaporator plate vents and push air out at fan mounting location.

14. Installation is the reverse of removal. Before replacing back panel fill refrigerant line pass-through hole with sealant gum.

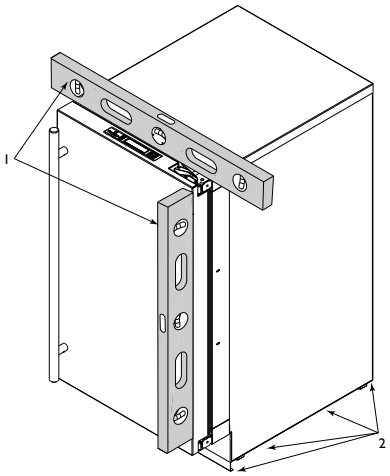
3000 Series Maintenance

Leveling

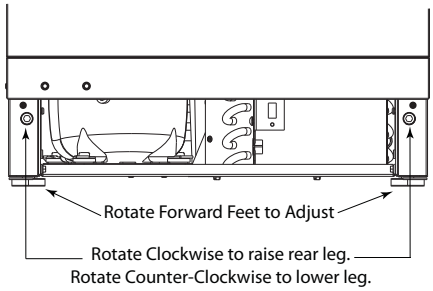
NOTICE

Unit must be level for proper door operation.

1. Use a level to check the levelness of the unit from front to back and from side to side. Place the level along top edge and side edge as shown (1).
2. If the unit is not level, rotate the adjustable leveling legs to raise or lower each corner of the unit (2) as necessary.



3. To rotate rear leveler legs remove grille. See Removing and Installing Grille.
4. Using the provided 6mm T bar Allen wrench, rotate the 2 adjustment screws as shown below.



Note: Do not use any power tools to adjust the leveler legs.

5. Check levelness after each adjustment and repeat the previous steps until the unit is level.

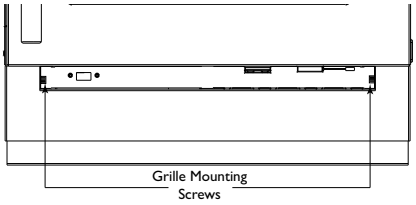
Removing and Installing Grille

⚠ WARNING

- **Disconnect electrical power to the unit before removing the grille.**
- **Edges of sheet metal may be sharp.**

Removing the grille

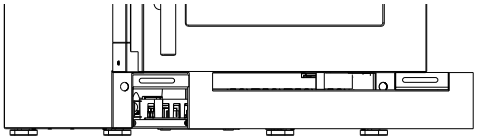
1. Disconnect power to unit.
2. Using the included 7/64" Allen wrench, loosen, but do not remove both grille lock screws. See below.



3. Gently pull grille away from unit until it stops.
4. Push grille rails towards the center of the unit to lift rails off lock screws.
5. Pull grille free from unit.

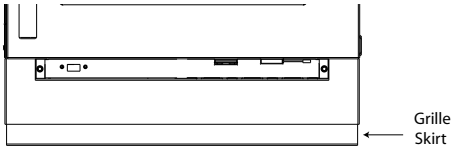
Installing the grille

1. Align slots in grille rail with screw heads in base of unit.
2. Push grille rails towards the center of the unit and set rails over screw head.
3. Slide grille into position. Using included 7/64" Allen wrench, tighten grille lock screws.



Adjusting Grille

The grille has an automatic vertical plane adjustment and can also be adjusted on its horizontal plane as well. To adjust your grille to match your surrounding cabinetry follow the instructions below.



1. Loosen, but do not remove, the lock screws on the inside of the grille rails. Lock screws are located on the inside of each grille rail.
2. Pull grille out to desired position and secure lock screws.
3. The grille skirt may be manually adjusted to the height of your floor. Simply raise or lower the skirt as needed.

3000 Series Doors

Door Alignment and Adjustment

Align and adjust the door if it is not level, or is not sealing properly. If the door is not sealed the unit may not cool properly, or excessive frost or condensation may form in the interior.

NOTICE

Properly aligned, the door's gasket should be firmly in contact with the cabinet all around the door (no gaps) and fully seated in gasket pocket. Carefully examine the door's gasket to assure that it is firmly in contact with the cabinet. Also make sure the door gasket is not pinched on the hinge side of the door.

NOTICE

Do not attempt to use the door to raise or pivot your unit. This would put excessive stress on the hinge system.

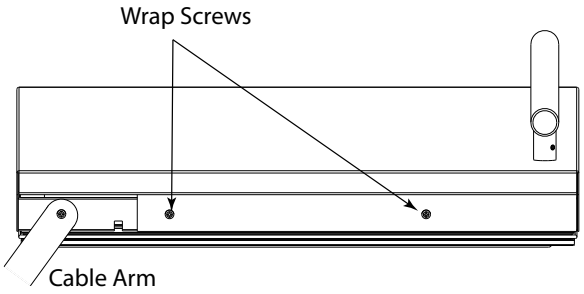
- **Pay special attention to the Cable Arm. Make sure not to over extend or damage it during door alignment.**

Overlay Models (Removing Overlay)

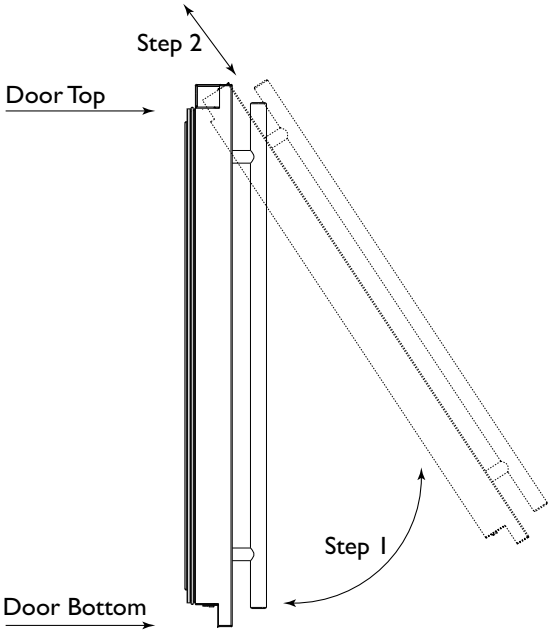
1. Open door completely.
2. Remove gasket.
3. Remove six screws seated in gasket pocket.

Stainless Models (Removing Wrap)

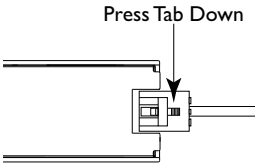
1. Open door completely.
2. Remove the two wrap screws from the bottom of the stainless steel door wrap.



3. Gently pull bottom of wrap away from door.
4. The wrap hinges on top of the door. Carefully pull wrap away and then up**. See below.**

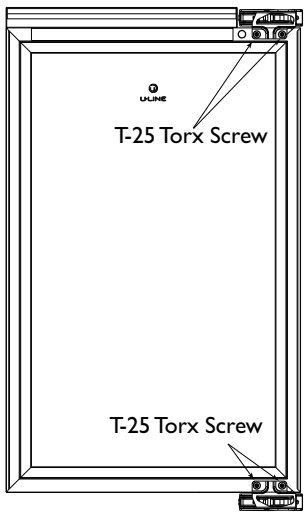


5. If door being adjusted houses the display unit, remove cable from display by pressing in the release tab on the cable connector.



Alignment and Adjustment

1. Using a T-25 Torx Bit, loosen each pair of Torx head screws on both the upper and lower hinge plate.
2. Square and align door as necessary.
3. Tighten Torx head screws on hinge.
4. If necessary re-connect display and re-install stainless steel wrap.



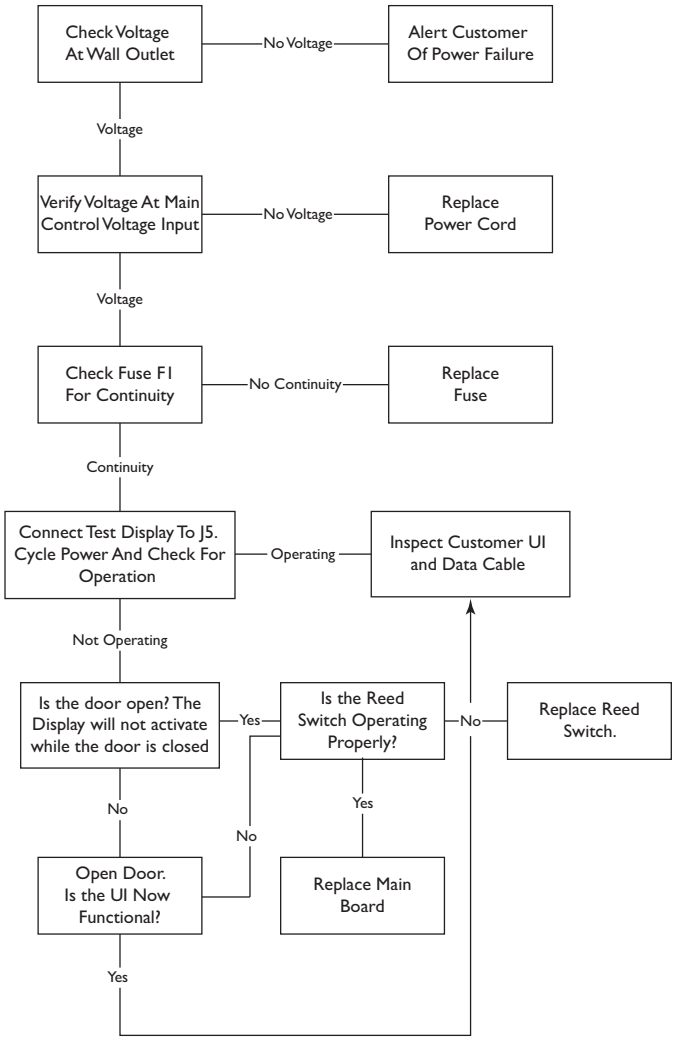
Troubleshooting

Main Control

The main control board is very robust and is rarely the cause of system issues. It is important to fully diagnose the board for any suspected failures before attempting to remove the board for replacement or service. Follow the guidelines below to fully test and diagnose the main control.

Power Fault

If the unit does not (or seems to not) power on, follow the flow chart below to help diagnose the issue. Before beginning it is important to first verify the unit is not simply set to sabbath mode.



Testing The Main Control

If the main control is suspected of being faulty, the following procedure should be performed to verify main control for functionality.

Relay & DC Outputs

One of the primary functions of the main control is to operate the multiple relay and DC outputs during each cycle. Verify proper operation of these relays using the following procedure.

1. Enter "Relay Toggle" through the service menu.

NOTICE

Frequently toggling the compressor relay could force the compressor into overload. The compressor will automatically deactivate during an overload and will remain deactivated until the overload switch cools. This could take some time. It is important to allow the compressor at least 5 minutes off time between relay cycles.

2. Toggle the relay. Its related component should activate / deactivate with the switching of the relay. If it does not, see "Component Testing" on page **27**.

Inputs

The main control monitors a number of thermistor inputs and switch states during operation. It would be unlikely that an error in reading an input would be at the board level. Always attempt to replace the faulty switch or thermistor input with a known working sample to verify proper board operation.

Other Suspected Main Control Faults

If other components have been ruled out as being faulty but the unit continues to have operating issues, it is most likely due to a configuration error. Configuration errors can be cleared by restoring the unit to its factory default setting. Factory defaults may be restored through the service menu. See page **17**.

⚠ CAUTION

Precautions must be taken while working with live electrical equipment. Be sure to follow proper safety procedures while performing tests on live systems.

Component Testing

NOTICE

Frequently toggling the compressor relay could force the compressor into overload. The compressor will automatically deactivate during an overload and will remain deactivated until the overload switch cools, regardless of relay and voltage state.

NOTICE

If the compressor is suspected of being faulty it is important to verify all copper tubing, dryers, capillary lines, evaporators and condensers are free from kinks, excessive bends or blockages. A restriction in any of these components would force the compressor to overload, making it appear as if it is faulty.

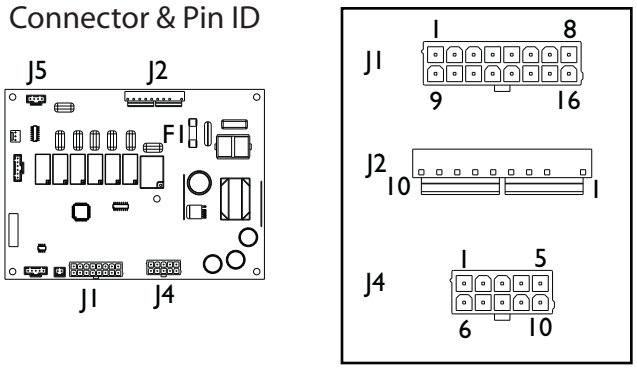
If a component is suspected as being faulty, follow the troubleshooting steps below to help isolate the cause.

1. Initiate Self Test Mode, address any current errors before beginning component testing.
2. Activate the component's relay or DC output through "Relay Toggle" under the service menu.
3. Test for voltage at the component.

Voltage Present

If voltage is present and the component does not function, suspect a faulty component. If the component being tested is the compressor, make certain it is not overloaded by disconnecting power to the unit for at least 15 minutes and re-testing.

No Voltage Present



Relay Output ID	Test Point 1	Test Point 2	Voltage On	Voltage Off
Comp	Pin J2-3	Pin J2-10	120	0
F-1	Pin J2-1	Pin J2-10	120	0
F-3 NA	---	---	---	---
L1	Pin J4-4	Pin J4-9	8-12 VDC	< 7 VDC

If no voltage is present check for voltage at the relay / DC output. Reference the diagram for component relay / DC output pins. If voltage is present, suspect a faulty component cable. If voltage is not present at the relay / DC output, cycle the power to the unit and re-test. If voltage is still not present, suspect the main control of being faulty.

Component Testing Example

Below is an example of how to properly test a component for functionality. An evaporator fan is used.

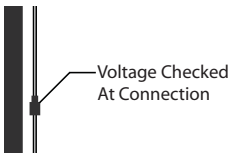
Condition

Customer complains of the unit not cooling properly. The main screen of the display lists an error "Temp Hi 12H+". The compressor seems to be functioning properly, however the evaporator fan does not activate after a door cycle.

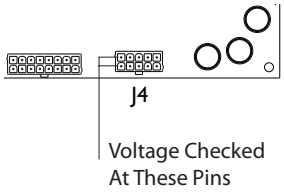
In the above case it would be wise to test the evaporator fan for functionality.

Testing

1. Check "Self Test" for any additional errors that may be current.
2. Visually examine the fan through the fan cover. Note any ice buildup. In this case no ice buildup was noticed. The fan appeared as if it could spin freely.
3. Enter "Relay Toggle" and manually activate FAN1.
4. Check for fan operation. In this case the fan does not operate.
5. Remove the upper and lower back panel from the refrigeration unit.
6. Ensuring the DC output is still active, use a meter to check voltage at the fan power connection point. In this instance no voltage is present.



7. Ensuring the DC output is still active and referencing the Connector & Pin ID chart, a voltage test is performed across pins 1 and 6 of the header labeled J4. In this case a stable 12 volts DC was noted.



8. Confirming that the board is sending voltage, the cabling between the board and fan is inspected for damage. In this case some damage is noted.
9. The fan cable harness is replaced, and the fan DC output is tested again. It is noted the fan now spins freely.
10. The unit is then monitored for proper operation and any further faults.

Customer Call Guide

The following guide has been developed to help answer frequently asked questions. It can be used by persons scheduling service calls. These are things the customer should consider before scheduling a service call.

Concern	Potential Causes	Suggested Remedy
The unit is not cold enough	Door not closed (excessive frost, sweating or icing may be observed)	Manually defrost your unit and ensure that there are no obstructions interfering with proper door closure.
	Control set too warm	Refer to the General Information section of this manual for information on how to adjust the control colder (allow 24 hours for temperature stabilization).
	Dirty condenser	Refer to the maintenance section of this service manual for condenser cleaning instructions.
	Installation problem	Airflow through the grill (below the door in front) cannot be obstructed. Also, the unit cannot be installed behind a closed door or in a closet.
The unit is too cold or freezing product	Control set too cold	Refer to the General Information section of this manual for information on how to adjust the control warmer (allow 24 hours for temperature stabilization).
	Product not properly loaded in unit	Ensure product is not pushed up against the back wall or rear cooling plate of the unit when loading.
Frost or ice accumulating within the unit	Heavy usage or high ambient	If the frost is persistent (most will clear up when the ambient resumes normal), manually defrost the unit.
	Door not closed (excessive frost, sweating or icing may be observed)	Manually defrost unit and ensure that there are no obstructions holding the door open.
	Normal	Some U-Line units are manual defrost and frost buildup is normal. Refer to the General Information section of this manual for information regarding defrosting your unit.

Troubleshooting

⚠ CAUTION

Never attempt to repair or perform maintenance on the unit until the main electrical power has been disconnected from the unit.

Concern	Potential Causes	Suggested Remedy
Not Cooling	Compressor overheating	Verify proper air flow through condenser (Refer to Airflow/General Information Section of this manual).
		Confirm condenser fan operation (Refer to Airflow/General Information Section of this manual).
		Confirm proper compressor operating voltage (Refer to Relay Toggle/ General Information Section of this manual to initiate power to the compressor).
	Compressor not operating	Confirm proper compressor operating voltage (Refer to Relay Toggle/ General Information Section of this manual to initiate power to the compressor).
		Test overload and relay, replace as needed.
	Compressor operating - no cooling	Refer to Refrigeration System Diagnosis Guide Section of this manual.
	Evaporator fan not operating	Refer to Convection Cooling Section of this manual.
Frozen Product	Ensure proper use of Quick Chill mode	Refer to Quick Chill Section of this manual.
	Control set too cold	Refer to Adjusting Temperature Settings Section of this manual.
	Review logged error codes	Refer to Fault System Diagnosis Guide Section of this manual.
	Thermistor failure	Refer to Thermistor Failure Section of this manual.
Frost Buildup Inside Unit	Door Ajar or Restricted from Closing	Refer to All Errors Section of this manual to read errors such as Door Open 5M.
	Evaporator fan not operating	Refer to Convection Cooling Section of this manual.
	Thermistor failure	Refer to Thermistor Failure Section of this manual.
Display Not Working	Unit placed in Sabbath mode	Refer to Sabbath Mode Section of this manual.
	Display unplugged	Verify that both ends of the display wiring are firmly connected.
	Display wiring broken or damaged	Perform continuity test of wiring and replace as needed.
Internal Lights Not Working	Control Setting	Refer to the Interior Lighting Section of this manual.
		Unit set to Sabbath Mode. Refer to the Sabbath Mode Section of this manual.
	Door switch misaligned or defective	Refer to Reed Switch Section of this manual.
Noisy	Refrigeration tubing touching cabinet	Carefully reposition tubing.
	Fan blade obstruction (wiring, foam insulation, packaging material)	Remove obstruction.

Compressor Information

Cooling process

Refrigerant is pumped from the compressor to the condenser as a high pressure, high temperature vapor.

As the refrigerant cools in the high pressure condenser, the vapor condenses to liquid. During this phase change, a great amount of heat is rejected with the help of the condenser fan.

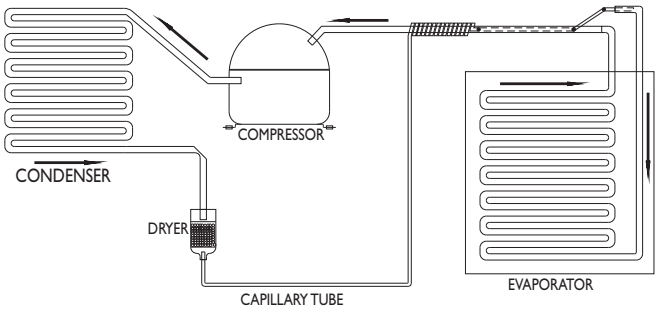
The liquid then flows to the dryer where it is strained and filtered.

From the dryer, the refrigerant flows through the capillary tube which meters the liquid refrigerant to the evaporator.

The pressure of the refrigerant is reduced to the evaporating or low side pressure.

The reduction of pressure on the liquid refrigerant causes it to boil or vaporize until it reaches saturation temperature. As the low temperature refrigerant passes through the evaporator coil, it continues to absorb heat, causing the boiling action to continue until the refrigerant is completely vaporized. It is during this phase that the most heat is absorbed (the cooling takes place) in the refrigerator.

The refrigerant vapor leaving the evaporator travels through the suction line to the compressor inlet. The compressor takes the low pressure vapor and compresses it, increasing both pressure and temperature. The hot, high pressure gas, is pumped through the discharge line and into the condenser. The cycle continues.



Compressors

DANGER

Electrocution can cause death or serious injury. Burns from hot or cold surfaces can cause serious injury. Take precautions when servicing this unit.

- **Disconnect the power source.**
- **Do not stand in standing water when working around electrical appliances.**
- **Make sure the surfaces you touch are not hot or frozen.**
- **Do not touch a bare circuit board unless you are wearing an anti-static wrist strap that is grounded to an electrical ground or grounded water pipe.**
- **Handle circuit boards carefully and avoid touching components**

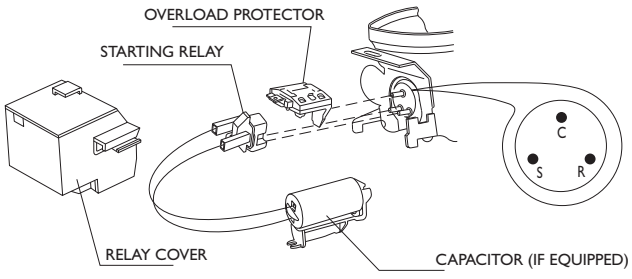
To measure the start winding resistance, measure across the C and S pins.

To measure the run winding resistance, measure across the C and R pins.

Also check S to R and you should get the sum of the run and start windings.

To ensure the windings are not shorted, check the S and R to ground.

	70077
	EMU30HSC
Voltage	115
Frequency	60
LRA	5.5
FLA	1.0
Start Winding	7.0
Run Winding	8.4
Overload	71009
Relay	71010
Capacitor	71013



Thermistors

Thermistors are used for various temperature readings. Thermistors provide reliable temperature readings using a resistance which varies based on surrounding temperatures. If a faulty thermistor is suspected it may be tested using an accurate ohmmeter. In an ice water (32°F) resistance should measure 16.1 kilohms,

16.1K Ohms - 32°F ambient

Thermistor Failure

Zone Thermistor

If the zone thermistor fails, the unit will continue to operate on a preset time interval of 10 minutes on and 30 minutes off. The unit will otherwise operate normally. The error will be displayed on the main display, "Self Test" and logged in "All Errors".

Evaporator Thermistor

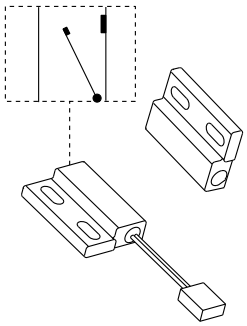
If the evaporator thermistor fails, the unit will rely on a preset defrost timer during defrost cycles. The unit will otherwise operate normally. Evaporator thermistor errors are hidden from the display and recorded in "All Errors" and displayed in "Self Test" modes.

Ambient Thermistor

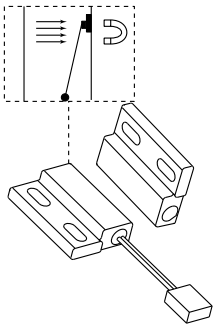
The ambient thermistor is mainly used for diagnostics. If the thermistor fails, the unit will operate normally.

Reed Switch

A reed switch is used to monitor door state. The switch side is mounted under the cabinet and the magnet is mounted to the cable arm. When the door is closed magnetic force pulls the reed to its contact and closes the circuit which turns the light and display off. When the door is open the reed pulls away from the contact and opens the circuit. If the door is left open for longer than 5 minutes, the switch will trigger an error code and set an audible warning.



Magnet Away From Switch
(Door Open)
(Switch Open)



Magnet Close To Switch
(Door Closed)
(Switch Closed)

Refrigeration System Diagnosis Guide

System Condition	Suction Pressure	Suction Line	Compressor Discharge	Condenser	Capillary Tube	Evaporator	Wattage
Normal	Normal	Slightly below room temperature	Very hot	Very hot	Warm	Cold	Normal
Overcharge	Higher than normal	Very cold - may frost heavily	Slightly warm to hot	Hot to warm	Cool	Cold	Higher than normal
Undercharge	Lower than normal	Warm - near room temperature	Hot	Warm	Warm	Extremely cold near inlet - outlet below room temperature	Lower than normal
Partial Restriction	Somewhat lower than normal - in vacuum	Warm - near room temperature	Very hot	Top passes warm lower passes cool (near room temperature due to liquid	Room temperature (cool) or colder	Extremely cold near inlet -outlet below room temperature backing up	Lower than normal
Complete Restriction	In deep vacuum	Room temperature (cool)	Room temperature (cool)	Room temperature (cool)	Room temperature (cool)	No refrigeration	Lower than normal
No Gas	0 PSIG to 25"	Room temperature (cool)	Cool to hot	Room temperature (cool)	Room temperature (cool)	No refrigeration	Lower than normal

Fault System Diagnosis Guide

Error	Solution 1	Solution 2	Solution 3
No Comm	Inspect Customer UI and Data Cable (if defective replace entire door)		
Zone T Open	Inspect zone thermistor connection. Replace if necessary.	Inspect main control wire harness for splits or breaks. Repair split or cut cabling.	
Evap T Open	Inspect evaporator thermistor connection. Replace if necessary.	Inspect main control wire harness for splits or breaks. Repair split or cut cabling.	
Amb Thrm Open	Inspect ambient thermistor connection. Replace if necessary.	Inspect main control wire harness for splits or breaks. Repair split or cut cabling.	
Zone T Short	Inspect thermistor cable for pinch points or damage. Replace if necessary.	Inspect wire harness from main control board for pinch points or damage. Repair split or pinched cabling.	
Evap T Short	Inspect thermistor cable for pinch points or damage. Replace if necessary.	Inspect wire harness from main control board for pinch points or damage. Repair split or pinched cabling.	
Amb Thrm Short	Inspect thermistor cable for pinch points or damage. Replace if necessary.	Inspect wire harness from main control board for pinch points or damage. Repair split or pinched cabling.	
Temp Hi 6H+	If excessive frost is also noted, inspect door and door gasket for proper seal and alignment.	Inspect evaporator fan for proper operation.	Inspect refrigeration system. Reference the Refrigeration System Diagnosis Guide on page **32**.
Temp Hi 12H+	If excessive frost is also noted, inspect door and door gasket for proper seal and alignment.	Inspect evaporator fan for proper operation.	Inspect refrigeration system. Reference the Refrigeration System Diagnosis Guide on page **32**.
Temp Lo 6H+	Inspect main control for proper relay operation.	Inspect refrigeration system. Reference the Refrigeration System Diagnosis Guide on page **32**.	
Temp Lo 12H+	Inspect main control for proper relay operation.	Inspect refrigeration system. Reference the Refrigeration System Diagnosis Guide on page **32**.	
Door Open 5M	Verify door closes properly.	Inspect cable arm, verify presence of magnet, verify proper operation and movement or arm.	Inspect reed switch wiring.

SERVICE MANUAL

U-LINE®

PRODUCT INFORMATION

Complete Installation Guides, Use and Care Guides, Specifications & Features and Benefits, CAD Drawings, Overlay Panel/Frame and Toe-Kick Specifications and Instructions, Compliance Documentation and Applicable Energy Guides are available for reference and download at u-line.com.

SERVICE INFORMATION

Please consult your Use and Care Guide for troubleshooting information. Answers to Customer Frequently Asked Questions are available at u-line.com under Customer Service. You may contact U-Line directly:

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BUILDING ON THREE GENERATIONS OF INNOVATION

For over five decades and through three generations, U-Line continues to be the leader in innovation, quality and performance in the premium built-in undercounter ice making, refrigeration and wine preservation market. U-Line has captivated those with an appreciation for the finer things with exceptional functionality, style, inspired innovation and attention to even the smallest details. We are known and respected for our unwavering dedication to product design, quality and selection.

In 1962, Henry Uihlein founded U-Line Corporation as an outgrowth of Ben-Hur Freezer Company and was the first to develop and patent an automatic stand-alone undercounter residential ice maker. His foresight and determination to develop new ideas and to succeed when there were no clear guidelines or solutions are evident today. The newest Uihlein generation continues to build upon the family's innovative legacy at the Milwaukee, Wisconsin based business by providing continuity and vision from which new designs and technology continue to be born.

Today the complete U-Line product collection includes Ice Makers, Ice Machines, Wine Captain® Models, Combo® Models, Refrigerator / Freezers, Refrigerators, Drawer Models and Beverage Centers. The U-Line brand offers products in the 1000 Series, 2000 Series and the Modular 3000 Series. The 1000 Series offers a more targeted priced product with appropriate features, while the 2000 Series offers upscale features, advanced technology and specialized product families. Our Modular 3000 Series provides sleek design and versatile temperature settings with our U-Select® control. U-Line's approach to its breadth of products, multiple price points and features allows a choice and product that will fit any lifestyle.

DESIGNED, ENGINEERED AND ASSEMBLED IN WISCONSIN, USA

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